

Periscope.

a.—PHYSIOLOGY OF THE NERVOUS SYSTEM.

GANGLIA OF THE SYMPATHETIC AND VASO-MOTOR NERVES.—Dastre and Morat have made experiments upon the relation between the sympathetic ganglia and the vaso-motor nerves. The superior cervical ganglion exercises a tonic action upon the bucco-facial vessels. If the nerve is cut below the ganglion, the color of the bucco-facial region does not change; if, however, the ganglion is torn out, a dilatation of the vessels takes place. The inferior cervical ganglion, and especially the first thoracic, exercise a tonic action over the vessels of the head, mainly the ears. This tonic action is reinforced by vaso-constrictor nerves coming from the cord with the roots of the third, fourth, and fifth pair of dorsal nerves; for the irritation of these nerves contracts the vessels of the ear, showing that the vaso-constrictors predominate over their antagonists. On the other hand, the same ganglia receive vaso-dilator fibres from the eighth cervical pair and the first and second dorsal, for the excitation of these nerves dilates the blood-vessels of the ear. These facts demonstrate that in the cervical sympathetic antagonistic vaso-motor fibres run. The inhibitory nerves, when they enter the ganglia, are lost there, at least in part; for when the sympathetic nerve is irritated immediately below the stellate ganglion, there is always a vaso-dilatation, whilst irritation above the inferior cervical ganglion causes habitually contraction of the vessels. These facts show that in the sympathetic ganglia there are tonic vascular centres and centres of interference. We see the first thoracic ganglion acts as a tonic centre whence the constrictor fibres emerge; secondly, that the constrictor filaments coming from the cord to this centre are reinforced in activity; third, elements antagonizing the preceding, coming from the cord and ending in the ganglion, where they exercise their inhibitory faculty. In the vaso-dilators of the inferior extremity the second and third lumbar ganglia act as tonic and inhibitory centres.—*Gazette des hôpitaux*, Nov. 22, 1883.

LESIONS OF AUDITORY APPARATUS AND TROUBLES IN LOCOMOTION.—Vulpian has been inserting into the ear of rabbits some

drops of an aqueous solution of chloral, twenty-five grammes to the hundred. At first there is only a little agitation, but at the end of twelve to fifteen minutes there is trouble in movement, the animal trembles, his head oscillates from right to left and *vice versa*, the extremities move with uncertainty, the animal falls on his side—generally on the side operated on; later, there is pronounced rotation of the head about the axis of the body. At the end of some hours the disturbances are more marked, and attain their maximum on the next day; then the animal rotates upon itself with violence, as after an injury to the middle cerebellar peduncle, the two eyes execute extended movements of vertical nystagmus. There is not the least sign of paralysis of the muscles of the extremities, but the facial muscles on the side operated on are paralyzed. These morbid phenomena preserved their intensity during many days, then they are enfeebled little by little. The facial paralysis persists as complete as on the day after the operation. It is seen that the troubles become more marked as the irritating agent goes more deeply, and acquire great violence when the cavity of the internal ear is attacked. The chloral by imbibition passes rapidly through the membranum tympani. The intensity of the motor troubles is due to irritation of the vestibule and semicircular canals.—*Gazette des hôpitaux*, Nov. 9, 1882.

FUNCTIONAL INDEPENDENCE OF EACH HEMISPHERE.—Dumont-pallier has demonstrated the functional independence of each hemisphere. Thus a subject, hystero-epileptic, with left dyschromatopsia and sensitive to pricking, in the left superior member, et cætera, was put into a state of somnambulism by pressure on the head, and ordered to knit, which she did in a regular manner with the two hands. Pressure exerted upon the left lateral part of the vertex arrested the movements of the left hand, the right continuing the work. Pressure upon the right side of the vertex arrested the movements of the right hand. Pressure upon the median region of the vertex awoke her. This demonstrated that the median pressure had a simultaneous reflex action upon the two cerebral hemispheres, whilst unilateral pressure had no more than a crossed unilateral reflex action upon the hemisphere of the side opposite to that upon which pressure had been exerted. In another experiment he proceeded as follows: The subject had left hemianesthesia for the superior region of the body and right hemianesthesia for the inferior region below the umbilicus, with left achromatopsia and right dyschromatopsia. This patient was put into a state of unilateral lethargy for the right superior region of the body, as was demonstrated by the calling out of cutaneo-muscular reflexes. By the action of light on the eyes, right unilateral catalepsy was induced. By pressure upon the median region of the vertex right unilateral somnambulism was induced. The movements of command are executed only by the right arm. In a second experiment, he applied upon the left frontal region a